

## AMENDMENT

### In the Claims:

The following listing of claims will replace all prior versions and listings of the claims in the application:

### Listing of the Claims:

1. (Currently Amended) A method ~~Method~~ for the preparation of a strain of evolved micro-organisms for the production of 1,2-propanediol by the metabolism of a simple carbon source, said method comprising:

\_\_\_\_\_ (a) ~~providing growing~~ an initial bacterial strain comprising a deletion of the gene *tpiA* and a deletion of at least one gene involved in the conversion of methylglyoxal (propanal) into lactate;

\_\_\_\_\_ (b) culturing the initial bacterial strain, under selection pressure in an appropriate growth medium comprising a simple carbon source ~~said initial bacterial strain comprising a deletion of the gene *tpiA* and a deletion of at least one gene involved in the conversion of methylglyoxal (propanal) into lactate~~ for a time period sufficient to allow an increase in growth; said;

\_\_\_\_\_ (c) ~~causing in order to cause~~ evolution, in said initial strain, of one or more genes involved in the biosynthesis pathway from DHAP to methylglyoxal and then to 1,2-propanediol towards evolved genes having an improved ~~[""]~~ 1,2-propanediol synthase~~[""]~~ activity to provide an evolved strain[,]; then and

\_\_\_\_\_ (c) selecting and isolating the evolved strain ~~or strains of evolved~~~~[""]~~ micro-organisms having an improved "1,2-propanediol synthase" activity.

2. (Previously presented) The method of claim 1, wherein the gene involved in the conversion of methylglyoxal into lactate is selected from the group consisting in *gloA*, *aldA* and *aldB*.

3. (Currently Amended) The method of claim 1, wherein the ~~initial~~ modified strain comprises deletion of the genes *gloA*, *aldA*, *aldB* and *tpiA*.
4. (Currently Amended) The method of claim 1, wherein the ~~initial~~ modified strain comprises deletion of the genes *IdhA*, *pflA*, *pflB*, *adhE* and *edd*.
5. (Currently Amended) The method of claim 1, wherein the initial strain also contains a pyruvate dehydrogenase complex ~~at least one gene coding for an enzyme that favours the metabolism of pyruvate to acetate~~.
6. (Currently Amended) The method of claim ~~[[1]]~~ 5, wherein the enzyme that favours the metabolism of pyruvate into acetate has low sensitivity to inhibition by NADH.
7. – 8. Cancelled
9. (Currently Amended) The method of claim ~~[[6]]~~ 5, wherein the ~~enzyme that favours the metabolism of pyruvate into acetate~~ pyruvate dehydrogenase complex is an endogenous enzyme.
10. (Currently Amended) The method of claim 1, wherein one or more heterologous genes coding for one or more enzymes involved in the conversion of acetyl-CoA and acetate into acetone are introduced into the evolved microorganisms to provide a modified evolved strain.
11. (Currently Amended) The method of claim 10, wherein ~~one~~ the one or more heterologous gene or genes coding for one or more enzymes involved in the conversion of acetyl-CoA and acetate are from *C. acetobutylicum*.
12. (Currently Amended) The method of claim 10, wherein the modified evolved strain comprising one or more heterologous genes coding for one or more enzymes involved in the conversion of acetyl-CoA and acetate into acetone is grown under selection pressure in an appropriate growth medium comprising a simple carbon source in order to cause, in said ~~evolved~~ modified evolved strain, the evolution of one or more genes involved in the conversion of acetyl-CoA and acetate to acetone towards an

improved "acetone synthase" activity, the second generation of resulting evolved microorganisms having an improved "1,2-propanediol synthase" activity and an improved "acetone synthase" activity are then selected and isolated.

13. (Currently Amended) The method of claim 1, wherein the strain is ~~selected from the group consisting of a bacterium, a yeast and a fungus.~~

14. (Currently Amended) The method of claim 13, wherein the modified strain is selected from the group consisting of *Escherichia* and *Corynebacterium*.

15. (Cancelled).

16. (Currently Amended) An evolved ~~Evolved~~ strain that can be obtained by the method according to ~~any of Claims~~ claim 1.

17. (Currently Amended) The strain ~~Strain~~ according to Claim 16, in which the gene *Ipd* has a point mutation whereby alanine 55 is replaced by valine.

18 – 21. Cancelled.

22. (Currently Amended) An initial ~~Initial~~ bacterial strain of a microorganism comprising a deletion of the gene *tpiA* and a deletion of at least one gene involved in the conversion of methylglyoxal (propanal) into lactate.

23. (Currently Amended) The strain of claim 22, wherein the gene involved in the conversion of methylglyoxal into lactate is selected among the group consisting in *gloA*, *aldA* and *aldB*.

24. (Currently Amended) The ~~method~~ strain of claim 22, wherein the initial strain comprises deletion of the genes *gloA*, *aldA*, *aldB* and *tpiA*.

25. (Currently Amended) The strain of claim 22, wherein the initial-strain comprises a deletion of the genes *IdhA*, *pflA*, *pflB*, *adhE* and *edd*.

26. (Currently Amended) The strain of claim 22, wherein the initial strain also contains ~~at least one gene coding for an enzyme that favours the metabolism of pyruvate~~

~~to acetate~~ a pyruvate dehydrogenase complex.

27. (Currently Amended) The strain of claim 22, wherein the ~~enzyme that favours the metabolism of pyruvate into acetate~~ pyruvate dehydrogenase complex has low sensitivity to inhibition by NADH.

28. – 29. Cancelled.

30. (Currently Amended) The strain of claim 22, ~~selected from the group consisting of wherein the strain is~~ a bacterium, a yeast and a fungus.

31. (Currently Amended) The strain of claim 30, selected from the group consisting of *Escherichia* and *Corynebacterium*.

32. (Currently Amended) The strain of claim 16, comprising a deletion of the gene *tpiA* and a deletion of at least one gene involved in the conversion of methylglyoxal (propanal) into lactate, selected from the group consisting in *gloA*, *aldA* and *aldB* to provide a modified evolved strain.

33. (Currently Amended) The strain of claim 16, comprising deletion of the genes *gloA*, *aldA*, *aldB* and *tpiA* to provide a modified evolved strain.

34. (Currently Amended) The evolved strain of claim 16, further comprising a modification, the modification comprising a deletion of the genes *IdhA*, *pflA*, *pflB*, *adhE* and *edd* to provide a modified evolved strain.

35. (Currently Amended) The strain of claim 16, ~~comprising at least one gene coding for an enzyme that favours the metabolism of pyruvate to acetate~~ wherein the strain also contains a pyruvate dehydrogenase complex.

36. (Currently Amended) The strain of claim ~~[[36]]~~ 35, wherein the ~~enzyme that favours the metabolism of pyruvate into acetate~~ pyruvate dehydrogenase complex has low sensitivity to inhibition by NADH.

37. – 38. Cancelled.

39. (Currently Amended) The strain of claim ~~[[36]]~~ 35, wherein the ~~enzyme that favours the metabolism of pyruvate into acetate~~ pyruvate dehydrogenase complex is an endogenous enzyme.

40. (Currently Amended) The strain of claim 16, comprising one or more heterologous genes coding for one or more enzymes involved in the conversion of acetyl-CoA and acetate into acetone.

41. (Currently Amended) The modified evolved strain of claim 40, wherein ~~one~~ the heterologous gene or genes coding for one or more enzymes involved in the conversion of acetyl-CoA and acetate is from *C. acetobutylicum*.

42. (Currently Amended) The strain of claim 16, ~~selected from the group consisting of wherein the strain is~~ a bacterium, ~~a yeast and a fungus~~.

43. (Currently Amended) The strain of claim 16, selected from the group consisting of *Escherichia*, and *Corynebacterium*.

44. (Currently Amended) The strain of claim 17, ~~selected from the group consisting of wherein the strain is~~ a bacterium, ~~a yeast and a fungus~~.

45. (Currently Amended) The strain of claim 17, selected from the group consisting of *Escherichia*, and *Corynebacterium*.

46. (Currently Amended) An evolved ~~Evolved~~ strain that ~~can be~~ is obtained by the method of Claim 10.

47. (Previously Presented) The strain of Claim 46, in which the gene *Ipd* has a point mutation whereby alanine 55 is replaced by valine.

48. (Currently Amended) The strain of claim 46, ~~selected from the group consisting of wherein the strain is~~ a bacterium, ~~a yeast and a fungus~~.

49. (Previously Presented) The strain of claim 46, selected from the group consisting of *Escherichia* and *Corynebacterium*.